WE CLAIM:

1.   A method of paging in a communications system comprising at least two networks, the method comprising:

        transmitting a first page on a first network to an
5   area defined by first location information pertaining to the first network and second location information pertaining to a second network.

2.   A method according to claim 1 further comprising:

        transmitting a second page on the second network to
10 an area defined by second location information pertaining to the second network and first location information pertaining to the first network.

3.   A method according to claim 1 wherein said area comprises each possible paging location consistent with both
15 the first location information and the second location information.

4.   A method according to claim 3 wherein the first location information identifies at least one location in the first network and the second location information identifies at
20 least one location in the second network, wherein said area comprises an intersection between the at least one location of the first network and the at least one location of the second network.

5.   A method according to claim 3 wherein the first
25 location information identifies a logical area of the first network and the second location information identifies a logical area of the second network, wherein said area comprises an intersection between the logical area of the first network and the logical area of the second network.

6.   A method according to claim 5 wherein each paging
location within the first network comprises a cell, and wherein
the area comprises only cells of the first network which
intersect with the logical area of the second network.

5   7.   A method according to claim 6 wherein the logical
area of the second network comprises at least one cell of the
second network, and wherein the area comprises only cells of
the first network which intersect any cell of the logical area
of the second network.

10 8.   A method according to claim 7 wherein each
transmitter for a cell of the first network is co-located with
a transmitter for a corresponding co-extensive cell of the
second network, and wherein each transmitter for the cell of
the first network and the transmitter for the corresponding co-
15 extesive cell of the second network share an antenna.

9.   A method according to claim 1 wherein the first
location information identifies at least one of:

        a first set of cells within the first network within
which a mobile device is expected to be located;

20   a first logical area within the first network having
a first associated set of cells within which a mobile device is
expected to be located; and

        an identifier of a first geographical area within the
first network within which a mobile device is expected to be
25 located;

        and wherein the second location information
identifies at least one of:

        a second set of cells within the second network
within which a mobile device is expected to be located;

a second logical area within the second network having a second associated set of cells within which a mobile device is expected to be located; and

an identifier of a second geographical area within the second network within which a mobile device is expected to be located.

10. A method according to claim 1 wherein the first network is an interconnect network, the second network is a dispatch network, and wherein the first location information comprises a location area identifier identifying a location area having a first associated set of cells within the first network within which a mobile device is expected to be located, and the second location information comprises a dispatch area identifier identifying a dispatch location area having a second associated set of cells within which a mobile device is expected to be located.

11. A method according to claim 1 further comprising at least one of:

the first network periodically querying the second network for the second location information;

the second network periodically providing the first network with the second location information;

the second network providing the first network with the second location information each time a mobile to be paged crosses a boundary of a logical area of the second network; and

the first network prior to transmitting the first page querying the second network for the second location information.

12. A method according to claim 1 further comprising:

comparing the first location information with the second location information;

generating intersection location information comprising intersection locations defined by the first location 5 information which are also locations defined by the second location information; and

defining the area in which to transmit the first page to comprise paging locations which are defined by the intersection locations.

10 13. A method according to claim 11 further comprising:

the first network comparing the first location information with the second location information;

the first network generating intersection location information comprising only intersection locations defined by 15 the first location information which are locations also defined by the second location information; and

the first network defining the area in which to transmit the first page to comprise only paging locations defined by the intersection locations.

20 14. A method according to claim 1 wherein said area comprises a geographical area defined by an intersection of the respective known geographical areas of the two networks.

15. A method according to claim 1 wherein the first network and the second network comprise a pair of networks, the 25 pair selected from a group of pairs consisting of:

a) an interconnect network and a dispatch network;

b) a dispatch network and a CDMA network; and

c) a packet data network and a voice call network.

16.   A method according to claim 1 wherein the second network is an interconnect network, and the first network is a dispatch network.

5   17.   A method according to claim 1 wherein the step of transmitting the first page comprises:

transmitting the first page to the second network;

embedding the first page in a second page of the second network; and

10   transmitting said second page on the second network to said area.

18.   A method according to claim 1 further comprising before the step of transmitting the first page:

transmitting a request to listen for the first page
15 to said second network; and

relaying on the second network the request to listen for the first page to said area.

19.   A communications system comprising at least two networks, the system comprising:

20   a service controller for sending a page over a first network of the system; and

an internetwork overlap determiner exchanger for:

a) receiving from a second network of the system second location information pertaining to the second network;
25 and

b) processing the second location information with first location information pertaining to the first network to generate intersection information;

wherein the service controller is adapted to send the page to
5   paging locations as a function of the intersection information.

20.   A communications system according to claim 19 further comprising:

a visited location register for storing the first location information;

10 wherein the service controller is adapted to retrieve the first location information, and wherein the internetwork overlap determiner exchanger comprises:

an internetwork area exchanger for receiving the second location information; and

15   an area overlap determiner for processing the second location information with the first location information to generate the intersection information, wherein the intersection information comprises locations defined by the first location information which are locations also defined by the second
20 location information;

wherein the paging locations are defined by the intersection information.

21.   A communications system according to claim 20 wherein the first location information comprises information pertaining
25 to a first logical area of the first network, and the second location information comprises information pertaining to a second logical area of the second network, and wherein the area overlap determiner generates the intersection information by determining cells of an intersection area which are located

within both the first logical area and the second logical area, and wherein the intersection information defines the cells of the intersection, and wherein the paging locations are co-extensive with the cells of the intersection.

5 22.   A communications system according to claim 19 wherein the second network of the system comprises:

an internetwork area exchanger for transmitting the second location information from the second network to the internetwork overlap determiner exchanger.